REMARKS

Present Status of the Application

In the Office Action dated September 21, 2005, Claim 9 is objected to based upon some informalities. Per the suggestion by the Examiner, Claim 9 is canceled to render the claim objections moot.

Furthermore, Claims 1-7 and 9 are rejected under 35 USC 102(b) as being anticipated by Guoxing et al. (0-7803-4859-1/98 IEEE "A Modified Current Mode Hamming Neural Network for Totally Unconstrained Handwritten Numeral Recognition", hereinafter "Guoxing")

Claim 8 is rejected under 35 USC 103(a) as being unpatentable over Guoxing et al. (0-7803-4859-1/98 IEEE "A Modified Current Mode Hamming Neural Network for Totally Unconstrained Handwritten Numeral Recognition", hereinafter "Guoxing") in view of Maeda (US-4,752,957, hereinafter "Maeda").

In response to the aforementioned claim rejections and claim objections, claim amendments and traversing of the claim rejections are presented to overcome the aforementioned claim rejections and claim objections.

Discussion of Objections

Claim 9 is objected to as being a duplication of Claim 2.

In response thereto, Claim 9 is canceled. In view of the aforementioned amendment, Applicants respectfully assert that the claim objections are no longer proper.

Discussion of the claim rejection under 35 USC 102

The Office Action rejected Claims 1-7 and 9 under 35 USC 102(b) as being anticipated by Guoxing.

Regarding Claim 1, the following claim limitation is further included: "wherein the extraction unit is constructed of 24 cascaded cells to form a plurality of cell circuits" to patentably distinguish over Guoxing. As a result, the following features in the amended Claim 1: "an extraction unit using cellular neural network for receiving a scanned image having a plurality of input features, wherein the extraction unit is constructed of 24 cascaded cells to form a plurality of cell circuits," is patentable over Guoxing. The "24 cascaded cells" are supported in ¶ [0025] of the present invention. In addition, the "cell circuit" of the extraction unit is supported and illustrated in FIG. 2 of the present invention. On the other hand, Guoxing uses a template matching circuit as shown in FIG. 3 of Guoxing on pg. 1859. The threshold of the template is shown in FIG. 2 on pg. 1858 of Guoxing. In short, the structure and the components of the circuit of the "extraction unit" in the present invention are DIFFERENT from the "template matching circuit" in Guoxing. In addition, the function for the extraction unit as shown in FIG. 1 of the present invention entails only the extraction of the features; whereas, in the Hamming

neural classifier of Guoxing, the extracted features are further matched with 20 binary feature templates, also including template thresholds as described in Guoxing, pg. 1858, ¶ 1, lines 5-15. Furthermore, prior to the compression of the received data, the Hamming neural classifier of Guoxing requires the performing of an ADDITIONAL step, namely the second sub-network to select the two largest matching score from the 20 competing inputs and forcing the remaining 18 inputs to zero as described in pg. 1858, ¶ 1, lines 15-18 of Guoxing. On the other hand, the present invention using the "cellular neural network" does not have the above additional step prior to the compression of the received data. In summary, the "cellular neural network" in the present invention as defined in FIG. 2 and in ¶ [0025] of the present invention is clearly patentable over the "Hamming neural classifier" in Guoxing as shown in pg. 1859, FIG. 3 of Guoxing. As a result, Claim 1 should be allowed.

Regarding Claim 4, the claim limitation: "wherein the membership function generator array is 10x10" is further patentable over Guoxing. It is found in pg. 1858, ¶ 1, lines 31-33 of Guoxing: "Each bit of the template is discrete value ranging from 0 to 10 instead of binary one, and they are programmable ...." Since "0 to 10" discrete values equals a total of 11; therefore, the corresponding membership function generator array in Guoxing should be 10 x 11 instead of the 10 x 10 array found in the present invention.

Based upon the aforementioned traversing of claim rejections of Claim 1, dependent Claims 2-7 and 9 should also be allowed.

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Discussion of the claim rejection under 35 USC 103

The Office Action rejected Claim 8 under 35 USC 103(a) as being unpatentable over Guoxing in view of Maeda.

Applicants respectfully disagree and traverse the above rejections as set forth below.

As found in Guoxing, pg.1857, ¶ 4, lines 2- 6: "...it has 25 binary inputs consisted with a 5x5 matrix which is received from 20 x 20 binary handwritten digit matrix, this matrix is actually enlarged to 24x24 matrix since it is conveniently guaranteed to scan all the grid in 20x20 matrix ....."; therefore, contrary to the assertion by the Examiner, Guoxing has 25 binary inputs, received from 20 x 20 binary matrix, and then transformed or ENLARGED to 24x24. On the other hand, "the 24-bit CCD extractor is constructed by 24 cascaded cells to form the 24x24 pixels feature extractor" in the present invention, which is found in ¶ [0025] of the present invention. As a result, a 24-bit CCD extractor is NOT taught, suggested, or disclosed in Maeda. Claim 8 is thus patentable over Guoxing in view of Maeda, and should be allowed.

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CONCLUSION

For at least the foregoing reasons, it is believed that all the pending Claims 1-8 of the present application patently define over the prior art and are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,

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